

AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A process for processing OFDM-signals received substantially simultaneously by a multi-antenna system with two or more corresponding ~~a plurality of~~ separate receiving channels, characterised in that wherein, ~~in the receiving channels~~, each receiving channel, the I/Q-values of each individual carrier of the OFDM-signal are obtained and in a manner known per se, ~~the channel correction values or the confidence values are~~ determined from the pilots for each carrier of the OFDM-signal, ~~from which values~~ wherein weighting factors are derived from the channel correction or confidence values for each I/Q-value of each ~~with which the I/Q-values of each individual carrier and each receiving~~ channel, by which weighting factors the I/Q-values of each individual carrier of the ~~[[or]]~~ OFDM-signal obtained in the OFDM-demodulator are differently weighted such that I/Q-values of carriers received at a low level are weighted low and I/Q-values of carriers received at a high level are weighted high, and the thus weighted I/Q-values are then added and divided by the ~~sum of all the weighting factors~~ number of all the weights.

2. (Currently Amended) ~~[[A]]~~ The process according to Claim 1, ~~characterised in that~~ wherein the I/Q-values at the output of the demodulator are fed to a time synchronisation device so that the I/Q-values of corresponding carriers of the individual receiving channels are in each case simultaneously available for further processing.

3. (Currently Amended) ~~[[A]]~~ The process according to Claim 1 ~~[[or 2]]~~, ~~characterised in that~~ wherein the I/Q-values of each individual carrier of the OFDM-signal are weighted as a

function of the channel correction values obtained from the pilots, such that low weighting factors are selected for large channel correction values and high weighting factors are selected for small channel correction values.

4. (Currently Amended) ~~[[A]]~~ The process according to claim 1, ~~characterised in that the~~
wherein data words available downstream of ~~the~~ a decision device are reduced to their original I/Q-values and then complexly weighted with the confidence values.

5. (new) The process according to claim 1, wherein each of the OFDM-signals received by the multi-antenna system has the same center frequency.

6. (new) A method for receiving and processing OFDM signals, the method comprising the steps of:

receiving substantially simultaneously the OFDM signals by a plurality of antennas,
each of the plurality of antennas having a separate receiving channel;

demodulating each of the received OFDM signals;

acquiring channel correction values or confidence values for each of the
demodulated OFDM signals;

providing I/Q values for each of the demodulated OFDM signals;

determining a weighting factor for each of the I/Q values on the basis of the channel
correction values or confidence values associated with each of the OFDM signals;

weighting each of the I/Q values by the corresponding weighting factor;

determining a total weight by adding together the weights of each of the weighted

I/Q values;

adding together each of the I/Q values for each of the demodulated OFDM signals;

and

dividing the added I/Q values by the total weight to determine a mean value, the mean value being utilized to maximize the signal to noise ratio.

7. (new) The method according to claim 6, wherein each of the separate receiving channels is set at substantially the same receiving frequency.